

**REMARKS/ARGUMENTS**

In the Final Office action dated July 2, 2004, claims 1 – 4, 7, 8, 16 – 18, 21, and 22 were rejected. In addition, there was an objection to the specification. Applicants hereby request reconsideration of the application in view of the below-provided remarks:

**I. Objections to the Specification**

The disclosure was objected to because “On page 17, line 3, ‘Fig. 6’ is used where ‘Fig. 10’ may be intended.” (Final Office action, page 2, item 2) Applicants have reviewed the cited text and figures and assert that Fig. 6 is correctly identified on page 17, line 3. The reference to Fig. 6 in the sentence on page 17 is simply provided to reiterate the disclosure that was made on page 14, line 25 to page 18, line 5. Applicants have amended the sentence at issue to correct any confusion that may exist. Specifically, the sentence has been amended to state “[a]s described above with reference to Fig. 6, the high point in the intensity versus optical frequency curve 1002 shown in Fig. 10 indicates the actual center frequency (or passband) of the optical pre-selector.” In view of the amendment Applicants request that the objection be withdrawn.

**II. Claim Rejections under 35 U.S.C. 103**

Claims 1 – 4, 7 – 8, 16 – 18, and 21 – 22 were rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Graves et al. (U.S. Pat. No. 6,115,162, hereinafter Graves) and Tolson (U.S. Pat. No. 6,208,850 B1).

**A. Claim 2**

Claim 1 recites a system for optical heterodyne detection. Claim 1 includes:

“an optical pre-selector optically arranged to filter an optical signal within one of said first, second, and third optical paths, said optical pre-selector having a passband that tracks the frequency of said

swept local oscillator signal, said optical pre-selector outputting a filtered portion of said optical signal;" (emphasis added)

Claim 2 depends from claim 1 and recites:

"The system of claim 1 further including a phase modulator for modulating at least some portion of said swept local oscillator signal, said phase modulator being responsive to said means for adjusting and being located along an optical path that is before said optical pre-selector." (emphasis added)

As recited in claims 1 and 2 and clearly shown in Figs. 5 and 13 of the Applicants' specification, the optical pre-selector and the phase modulator are two separate and physically distinct elements. Specifically, in Fig. 5, the optical pre-selector and phase modulator are depicted as elements 514 and 534, respectively, and in Fig. 13, the optical pre-selector and phase modulator are depicted as elements 1314 and 1334, respectively.

With regard to claims 1 and 2, the Final Office action cites the band pass filter of Tolson as teaching an optical pre-selector (see the Final Office action, page 5) and a phase modulator (see the Final Office action, page 4). Applicants assert that claim 2 is not rendered obvious in view of the cited prior art because Tolson does not teach or suggest a pre-selector and a phase modulator that are separate elements as recited in claim 2. Specifically, the system of Tolson includes only the band pass filter (see Tolson Fig. 1, element 3), which performs the dual functions of band pass filtering and imparting a phase change. Referring to the only figure in Tolson, there is no separate phase modulator identified. Additionally, there is no separate phase modulator identified in the specification of Tolson. While Tolson does teach a band pass filter that performs both band pass filtering and imparting a phase change, Tolson does not teach or suggest a pre-selector and a separate phase modulator as recited in claim 2. Applicants assert that because Tolson does not teach a pre-selector and a separate phase modulator as recited in claim 2, claim 2 is not rendered obvious from the cited prior art.

Additionally, Tolson does not teach or suggest a phase modulator that is "located along an optical path that is before said optical pre-selector" as stated in the Final action (see page 4 in the section "Regarding claim 2"). Specifically, Tolson cannot teach a phase modulator that is located along a path before an optical pre-selector because, as stated above, Tolson does not teach or suggest a phase modulator

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that is separate from an optical pre-selector (i.e., the pass band filter (3) in Tolson). Therefore, Applicants assert that claim 2 is not rendered obvious from the cited prior art.

In view of the above-identified remarks, Applicants request that the rejection of claim 2 be withdrawn.

#### Claim 4

Claim 4 is dependent on claims 1 and 2. Claim 4 recites "[t]he system of claim 2 further including a clock source for controlling the timing of signal modulation caused by said phase modulator." Claim 4 is rejected as obvious based on the broad statement that clock sources are well-known and that one would have been motivated to use a clock source "to provide appropriate synchronization of various elements in the system." While clock sources may be well-known, even for use in synchronization, the broad statement provided as the basis of the rejection is not sufficient to support an obviousness rejection for the specific use of a clock source that is recited in claim 4. In particular, the Final Office action has cited no art which teaches or suggests adding a clock source to the system of claim 1 "for controlling the timing of signal modulation caused by said phase modulator" as recited in claim 4. With the rejection of Claim 4, the Final Office action has failed to provide the requisite factual basis and failed to establish the requisite motivation to support the conclusion that it would have been obvious to one skilled in the art to add a clock source "for controlling the timing of signal modulation caused by said phase modulator." The Examiner is requested to cite art supporting his assertions. Alternatively, if the Examiner is aware of facts within his personal knowledge that provide the requisite factual basis and establish the requisite motivation to support his conclusion that it would have been obvious to one skilled in the art to add a clock source "for controlling the timing of signal modulation caused by said phase modulator," the Examiner is requested to provide an affidavit in accordance with 37 C.F.R. 1.104(d)(2).

#### Claim 17

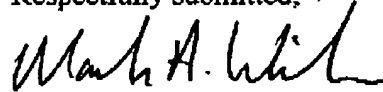
Claim 17 corresponds to claim 2. Therefore, Applicants assert that the remarks provided with regard to claim 2 apply also to claim 17.

Claim 18

Claim 18 corresponds to claim 4. Therefore, Applicants assert that the remarks provided with regard to claim 4 apply also to claim 18.

Applicants respectfully request reconsideration of the claims in view of the remarks made herein.

Respectfully submitted,



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Mark A. Wilson  
Reg. No. 43,994

Wilson & Ham  
PMB: 348  
2530 Berryessa Road  
San Jose, CA 95132  
Phone: (925) 249-1300  
Fax: (925) 249-0111